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ABSTRACT

Teaching and learning in the traditional classroom continues to evolve in the presence of technological innovation. This paper highlights basic strategies in which the traditional classroom can be modified to involve students more actively in the teaching and learning process. One of the strategies outlined in this paper includes the incorporation of a class Web site, electronic mail, and/or a class mailing list. These technological devices aid in opening and increasing the lines of communication between students and the instructor. Another strategy includes requiring the use of presentation software and word processing applications, which in turn helps students gain additional technological skills, while overcoming a fear of using computers. Group and collaborative learning, another strategy for producing active student involvement, can be encouraged through student presentations of work to the class, written journals, course portfolios, and writing assignments. These group and collaborative learning experiences can enhance students' level of improvement in writing, critical thinking, and college survival skills. Using these strategies in course design can also assist students in overcoming their struggles with difficult course material. Finally, such course design strategies help to ensure that students are more actively engaged in the learning process. (KP)

Beyond Chalk and Talk: Engaging Students in the Learning Process

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Abstract

Today's college student has access to state-of-the-art technology through instructional computer labs and personal computer ownership. Students may be overheard discussing modem speeds, megabytes (MB) of RAM, hard drive capacity -- 2, 4 or 6-gigabytes (GIG), and type of drives -- floppy, CD-ROM and ZIP, megahertz (MHz), whether their operating environment is compliant with Windows 95, 98,or NT, and all sorts of computer lingo. Additionally, names such Adobe, Basic E-mail, Internet, World Wide Web, list server, Word, Netscape, Internet Explorer, browsers and Power Point have crept into daily conversations and are literally new words in the dictionary. Teaching and learning in the traditional classroom continues to reform itself in the presence of technological innovation. This paper highlights basic strategies in which the traditional classroom can be modified to move beyond *'chalk and talk'*, thereby more actively involving students in the teaching and learning process.

Introduction

Annas (1992) defines a radical teacher as one who provides a student-centered classroom, rather than a teacher-centered classroom. Teacher-centered classrooms generally follow the standard "instructor lectures, and students take notes" format. There is limited

instructor-student discussion and students are relegated to a passive role, with the instructor acting as the sole agent of information distribution.

To move beyond 'chalk and talk', a radical professor must openly avoid the teacher-centered course format and opt for a student-centered, active learning environment. In a student-centered classroom, the radical professor lectures less and actively engages students in the teaching and learning process. The general goal is to foster advanced cognitive development in students. Often, multiple pathways through learning materials are available. The best new classroom practices involve students through immediacy, hands-on experiences, working together while they learn, use of their knowledge, and confirmation of their skills (McNeal, 1998, p. 90). This paper highlights basic strategies that may readily accomplish these goals.

Class Web Site

When materials are viewed before class, time spent in class is better used to synthesize information rather than merely to obtain facts (Hallgren & Gorbis, 1999). Incorporate a ***class web site*** to facilitate the flow of instruction, and generate lectures that encourage more active participation of students. A brief overview of each lesson prior to synchronous class presentation can be achieved through the use of a non-static course web site and a hard copy lecture supplement. The web site can be used as a frame of reference to view practice quizzes, class updates, handouts, and worksheets. Young (1999) found that some students perceive a course web site as an indicator that the professor will make other efforts to connect with students.

Electronic Communication

Through on campus instructional computer labs, most college and universities now routinely provide an E-mail address for full-time students. Free E-mail (e.g., hotmail.com)

providers also represent a viable alternative, and increase access to electronic mail for all students. To move beyond 'chalk and talk' lectures, ***use E-mail liberally***. Advise students to check their E-mail daily for class-related information, and to check the class web site for new uploads in course handouts and materials. Require students to submit selected assignments through individual E-mail.

A ***single electronic mailing list*** can be established for all sections of the course, which is based on the E-mail addresses as provided by the students. Many colleges provide the framework for a mailing list; as with E-mail, there are also multiple online free lists (e.g., Web Board). The electronic mailing list can be used, in conjunction with the class web site, to distribute updates and information. Examples include notices of deadlines, announcements, and course-related assignments. The class mailing list helps to encourage cooperative learning. Students will frequently query each other, using the electronic mailing list, regarding content material and application of technology. This ongoing dialogue can contribute greatly to an atmosphere of collegiality and camaraderie among students and between the students and the instructor.

Cooperative Learning

Hagelgans et al (1995, p. 8) define cooperative learning as follows:

- Students participate in permanent, stable groups.
- A significant portion of the required work of the course is done in groups -- in the classroom, in the computer lab, and in homework.
- The evaluation process includes group work.
- A positive espirit de corps is fostered among the members of each group.

- The classroom climate is such that a spirt of mutual responsibility develops among group members in the learning process.

Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning (Johnson, Roger, & Smith, 1991, p. 12). These authors state, "We are currently leaving an era of competitive and individualistic learning. . . . The current trend is for 'we' classrooms and 'we are all in this together' learning" (p. 1).

Use review activities to ***reinforce cooperative learning skills***. These review activities can be completed by small groups of three to four students who are seated in close proximity. External class research projects that require student collaboration can also be included as a core course requirement. Students can practice working together for a common goal--a great project; the project should also count as a meaningful portion of the students' overall grade. These research projects work well to facilitate greater understanding among students, increased opportunity for active learning, and provide extended avenues for peer interaction.

Changing a course to incorporate group work, however, takes much thought and effort. An error made by some faculty in the science, engineering, and mathematics classroom is to make no change in the assignments traditionally used in the course. (Rosser, 1998, pp. 85).

Writing Across the Curriculum

Students should be afforded the opportunity to hone their writing and speaking skills through periodic activities and assignments. One such example of a written assignment is the concept summary. A ***concept summary*** may be defined as a written assignment that requires that the student think, reflect, and write about concepts as covered in traditional classroom instruction. A concept

summary should require a review of key concepts, a writing component, and ideally integration of a basic word processor.

Another way to incorporate writing across the curriculum is the ***use of an on-line student written class newsletter***. Students write and submit articles to the instructor for editorial review of content accuracy and relevance to class. The best articles can be posted on the web and thereby encourage students to write to learn and learn to write across the curriculum and across disciplines. Other strategies include a required course portfolio, a research project and its mandatory class presentation, using Power Point®. Computers on Wheels and In Focus Projectors, as well as basic overhead projectors are standard equipment in most college audio visual labs, and can be scheduled for classroom use to aid student presentation of completed work and research projects.

Typical Student Feedback

The evaluation commentary which follows represents the predominant view of SECC students who complete STA 2023, Introductory Statistics, with the author. This student (anonymous, 1998) wrote:

> In my humble opinion, I feel that the electronic version of this class has been quite helpful . . .. In this format, (the one we incorporate), we are allowed a "degree of freedom," if you will, in planning our own itinerary. The work gets done in a group effort, which fosters a sense of camaraderie that is not unlike the "real world" which we are training for.
>
> The idea of an hour-long lecture is not appealing. This is interesting. This is innovative. This is fun. The workload is demanding; it is also good training for the above-mentioned real world.
>
> I am grateful for the opportunity to converse with students from other sections of your class, via list serve or e-mail. It is a network that would be impossible to duplicate via phone tree, study groups, etc. . . . This can be done "on the net" because you can log on whenever convenient.

> The [class] newsletter has many benefits. Not only is it another way to cement the information, it is also a good source of information for the readers of the articles. The fact that it is edited makes the information reliable. This is good to know. False information could be fatal (error).
>
> This way of writing is also good because it is good practice for the reports that we will need to generate in the job we hope to get. There is a lot to be said for this. The more one writes the better one gets. This is an outstanding device, this computer. I am a real convert.

Conclusion

The integration of technology in traditional classroom instruction can empower instructors to move beyond 'chalk and talk' lectures, thereby more actively involving students in the teaching and learning process. *Basic strategies* for reforming a traditional classroom include the incorporation of a class web site, electronic mail, a class mailing list, and required use of presentation software and a word processing application.

Group and collaborative learning can be encouraged through research. Required presentation of student work to the class, written journals, course portfolios, and writing assignments (e.g., concept summaries) are additional techniques which can greatly enhance communication and organizational skills.

There are multiple benefits in using a course design, which incorporates instructor-generated supplemental material, cooperative learning, and instructional technology. Students can overcome their fears of the difficult content material and computers. Improvement in writing, critical thinking and college survival skills may be enhanced. Finally, an interactive and ongoing dialogue among students and between students and the instructor helps to ensure that students are more actively engaged in learning.

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